APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,318	07/22/2003	Pankaj K. Garg	200208556-1	7310

				EXAMINER
22879	7590	03/09/2006		EBIRIM, EMEKA

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ART UNIT	PAPER NUMBER
2166	

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/624,318	GARG ET AL.
	Examiner	Art Unit	
	Emeka Ebirim	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>22 July 2003</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-25</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-25</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Status

1.   The application has been examined. Claims 1-25 are rejected as detailed below

and are pending in this office action.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

MPEP 2106 IV.B.2.(b)

3.   A claim that requires one or more acts to be performed defines a process. However, not
all processes are statutory under 35 U.S.C. 101. Schrader, 22 F.3d at 296, 30 USPQ2d at 1460.
To be statutory, a claimed computer-related process must either: (A) result in a physical
transformation outside the computer for which a practical application in the technological arts is
either disclosed in the specification or would have been known to a skilled artisan, or (B) be
limited to a practical application within the technological arts.

4.   Claims 12-14 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Claims 12-14 is not limited to tangible embodiments in view of Applicant's

disclosure. These claims appear to constitute solely an abstract idea without any

practical application. There appears to be no useful result recited that reflects the

practical utility in the descriptive portion of the specification [lines 1-13]. These claims do

not indicate use of hardware on which the software runs to perform the steps recited in

the body of the claim. Software or program can be stored on a medium and/or

executed by a computer. As such, the claim is not limited to statutory subject matter and

is therefore non-statutory.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 1-2,7,12-16,21 are rejected under 35 U.S.C. 102(e) as being anticipated

by Pub No: 2002/0194251 to Richter et al (hereinafter Richter).

Claims 1.

Richter disclose:

A processor-implemented method for allocating resources to a plurality of

applications, comprising [resource allocation; processing; applications, Richter

paragraph 0305]:

gathering instrumentation data for work requests processed by the applications [data for

a resource utilization table may be generated automatically; transaction data request

processing, Richter paragraphs 0013, 0393];

determining an associated workload level for work requests processed by the

applications [determine, workload, process, request, Richter paragraph 0217];

determining for each application a first application resource requirement as a

function of the workload levels and a service level metric associated with the application

[SLA (Service Level Agreement), Metric, application, resource; workload, system level,

Richter paragraphs 0339, 0224];

determining for each application an assigned subset of resources as a function of

the first application resource requirement, wherein the function minimizes

communication delays between resources, and satisfies a bandwidth capacity

requirement of the application [determine if the bandwidth limits for the lower quality site

have been exceeded and reject additional data requests related to the lower quality site,

See Richter paragraph 0126]; and

automatically reconfiguring the resources consistent with the assigned subset of

resources for each application [automatically adjust the resource utilization table and

thus, adjust the total capacity of a subsystem, Richter paragraph 0019].

Claim 2.

Richter discloses the elements of claim 1 as above and furthermore it discloses

classifying the work requests by type of requester and type of work [class,

requester, service (type of work), Richter paragraph 0329, 0330];

determining an associated requester-load level for each type of requester

[Richter paragraph 0261];

determining an associated workload level for each type of work [Richter

paragraph 0349]; and

adjusting a load balancing policy as a function of the workload levels and

requester-load level, wherein work requests are assigned to the resources according to

the load balancing policy [load balancing policy, Richter paragraph 0418].

Claim 7.

Richter discloses:

A processor-implemented method for allocating resources to a plurality of

applications, comprising [resource allocation; processing; applications, Richter

paragraph 0305]:

storing work-request identifier data when a work request is initiated [request,

storage, data, Richter paragraph 0114];

determining an identity of a completed work request from the work-request

identifier data when a work request is complete and storing instrumentation data for

identified work requests processed by the applications [identification of requesting user,

associated work; storage of data, Richter paragraph 0224, 0114];

classifying the work requests by type of requester and type of work;

determining an associated requester-load level for each type of requester

[Richter paragraph 0349];

determining an associated workload level for each type of work for work requests processed by the applications [determine, workload, process, request, Richter paragraph 0217];

adjusting a load balancing policy as a function of the workload levels and requester-load level, wherein work requests are assigned to the resources according to the load balancing policy [update, load balancing policy, Richter paragraph 0418];

generating for each application a first application resource requirement as a function of the workload levels and a service level metric associated with the application [SLA (Service Level Agreement), Metric, application, resource; workload, system level, Richter paragraphs 0339, 0224];

determining for each application an assigned subset of resources as a function of the first application resource requirement, wherein the function minimizes communication delays between resources, and satisfies a bandwidth capacity requirement of the application [determine if the bandwidth limits for the lower quality site have been exceeded and reject additional data requests related to the lower quality site, See Richter paragraph 0126]; and

automatically reconfiguring the resources consistent with the assigned subset of resources for each application [automatically adjust the resource utilization table and thus, adjust the total capacity of a subsystem, Richter paragraph 0019].

Claim 12.

Claim 12 is essentially the same as claim 1 except that it recites "apparatus". It is

rejected for the same reason (hereinabove).

Claim 13

Claim 13 is essentially the same as claim 2 except that it recites "apparatus". It is

rejected for the same reason (hereinabove).

Claim 14.

Richter discloses:

means for storing work-request identifier data when a work request is initiated

[request, storage, data, Richter paragraph 0114]; and

means for determining an identity of a completed work request from the work-

request identifier data when a work request is complete and storing instrumentation

data for identified work requests processed by the applications [identification of

requesting user, associated work; storage of data, Richter paragraph 0224, 0114].

Claim 15.

Claim 15 is essentially the same as claim 1 except that it recites "article of

manufacture". It is rejected for the same reason (hereinabove).

Claim 16.

Claim 16 is essentially the same as claim 2 except that it recites "article of

manufacture". It is rejected for the same reason (hereinabove).

Claim 21

Claim 12 is essentially the same as claim 7 except that it recites "article of

manufacture". It is rejected for the same reason (hereinabove).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 3-4, 8-9, 17-18, 22-23 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Pub No: 2002/0194251 to Richter et al (hereinafter Richter) in view of

Applicant's admitted prior art in the background of the application, p. 2 (hereinafter

AAPA).

Claims 3,8,17,22.

Richter discloses the elements of claims 1, 7,15,21 respectively as above and

furthermore it discloses wherein the resources include a plurality of servers and at

least one of the applications uses a tiered arrangement of servers, and the step of

determining application resource requirements further comprises [servers, level,

application, Richter paragraph 0123, 0268]:

representing each server as a processor-sharing queue having at least one

critical resource [queue, memory (critical resource), Richter paragraph 0169];

determining an approximate average response time for a selected number of

servers in each tier as a function of each processor-sharing queue [response, time,

Richter paragraph 0223]; and

determining a minimum total number of servers required in each tier for an

average response time of the application to satisfy the service level metric [Richter

paragraph 0248].

Richter does not explicitly indicate "tier arrangement". However, Applicant's

background of the invention discloses a prior art web as a tiered structure including a

first tier of web servers, a second tier of application servers, and a third tier of database

servers. [page 2, lines 20-22 of Applicant's specification].

It would have been obvious to one of ordinary skill in the art of data processing to

combine the teachings of the cited references. The teaching of the admitted prior art

would allow users of Richter's system to share incoming workload within each tier

[page 2, lines 20-22 of Applicant's specification].

Claim 4,9,18,23.

Richter's disclosure the elements of claims 1 ,7,15,21 respectively as above but

does not explicitly indicate tier arrangement. But the background of the application

recites the claim invention. [Background, lines 20-22].

It would have been obvious to one of ordinary skill in the art to have achieved the

same result with the implementation of servers as indicated by Richter [Richter

paragraph 0123] because it would have enabled Richter to achieve load balancing

[Richter paragraph 0418].

9.   Claims 5-6, 10-11, 19-20, 24-25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Pub No: 2002/0194251 to Richter et al (hereinafter Richter) in view of

Applicant's admitted prior art in the background of the application, p. 2 and further in

view of Pub No: 2004/0153376 to Ganesan et al (hereinafter Ganesan).

Claims 5,10,19,24.

The combination of the Richter and AAPA discloses the element of claims

4,9,18,23 respectively but it does not explicitly indicate "mixed-integer programming

function". Ganesan disclose the claimed "mixed-integer programming

function"[Ganesan paragraph 0011].

It would have been obvious to one of ordinary skill in the art to have combined

the cited references because mixed-integer programming as disclosed by Ganesan

would have enabled Richter determine allocation plan in accordance with optimized

value [Ganesan, Fig 2]

Furthermore mixed-integer programming would have enabled Richter to overcome the complexity in manually determining optimal plan allocation [Ganesan paragraph 0002].

Claim 6,11,20,25.

The combination of the cited references disclose the element of claims 4 ,9,18,23 respectively and furthermore Richter discloses wherein the step of determining an assigned subset of resources comprises [resource allocation, subset of processing engine resources, See Richter paragraph 0305]:

The combination of the Richter and AAPA discloses the element of claim 4 but it does not explicitly indicate "mixed-integer programming function". Ganesan disclose the claimed "mixed-integer programming function"[Ganesan paragraph 0011].

It would have been obvious to one of ordinary skill in the art to have combined the cited references because mixed-integer programming as disclosed by Ganesan would have enabled Richter determine allocation plan in accordance with optimized value [Ganesan, Fig 2]

Furthermore mixed-integer programming would have enabled Richter to overcome the complexity in manually determining optimal plan allocation [Ganesan paragraph 0002].

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Emeka Ebirim whose telephone number is 571-272-

3994. The examiner can normally be reached on 8:30pm - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for

the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

KHANH B. PHAM
PRIMARY EXAMINER

Name: Emeka Ebirim
Art Unit: 2166